

Web Design with React Training

Course Duration: 2 Months • Class Time: 1.5 Hrs



Figma

1. Introduction to Figma

- What is Figma? (UI/UX Design Tool Overview)
- Setting Up a Figma Account (Free vs. Paid Features)
- Figma Interface Overview (Toolbar, Layers, Properties Panel)
- Creating Your First Figma Project

2. Figma Basics

- Frames vs. Artboards
- Shapes and Drawing Tools (Rectangle, Line, Ellipse, Polygon)
- Working with Text (Typography Basics)
- Colors and Gradients (Global and Local Styles)
- Alignment and Distribution Tools
- Layers and Groups Management

3. Advanced Layout Techniques

- Auto Layout:
 - Creating Responsive Frames
 - Padding, Spacing, and Alignment
 - Nesting Auto Layouts
- Grids and Guides (Pixel-Perfect Design)
- Constraints and Resizing Behavior
- Designing for Multiple Screen Sizes (Desktop, Tablet, Mobile)

4. Components and Variants

- What are Components?
- Creating and Using Components
- Component Instances and Overrides
- Variants (Interactive Components)
- Building Design Systems with Components
- Managing Component Libraries

5. Design Systems and Styles

- Setting up a Design System
- Text Styles (Headings, Paragraphs)
- Color Styles (Primary, Secondary, Neutral)
- Effects (Shadows, Blur, Borders)
- Icon Systems and Libraries
- Sharing and Reusing Styles Across Projects

6. Prototyping and Interactions

- Introduction to Prototyping
- Adding Interactions (Hover, Click, Drag)
- Smart Animate (Creating Smooth Animations)
- Page Transitions and Overlays
- Creating Interactive Forms and Components
- Prototyping Mobile vs. Web Interfaces

7. Figma Projects and Assignments

1. Landing Page Design (Responsive)
2. Mobile App UI

HTML

1. Introduction to HTML

- What is HTML?
- History and Evolution of HTML (HTML4, HTML5)
- Understanding HTML Document Structure
- Setting Up a Development Environment (VS Code, Browser)
- Basic HTML Document Syntax (<!DOCTYPE html>, <html>, <head>, <body>)

2. HTML Basics

- Headings (<h1> to <h6>)
- Paragraphs and Line Breaks (<p>,
, <hr>)
- Text Formatting Tags (, <i>, <u>, , , <small>, <mark>)

3. HTML List

- Lists:
- Ordered Lists ()
- Unordered Lists ()
- Definition Lists (<dl>)

4. HTML Images

- Creating Hyperlinks (<a>)
- Internal vs. External Links
- Linking to Email (mailto :) and Phone Numbers (tel :)
- Adding Images ()
- Image Attributes (alt, title, width, height)
- Image Optimization Best Practices

5. HTML Forms and Inputs

- Creating Forms (<form>)
- Input Types (<input> – text, password, email, number, date, etc.)
- Labels and Accessibility (<label>)
- Form Elements:
- Textarea (<textarea>)
- Dropdown List (<select>, <option>)
- Checkboxes and Radio Buttons
- Submit and Reset Buttons
- Form Validation (required, pattern, minlength, maxlength)

6. HTML Tables

- Creating Tables (<table>)
- Table Rows and Cells (<tr>, <td>, <th>)
- Table Headers, Footers, and Captions
- Merging Cells (colspan, rowspan)
- Styling Tables with Basic CSS

7. HTML Multimedia

- Embedding Videos (<video>)
- Embedding Audio (<audio>)
- Adding YouTube Videos
- Embedding External Content (<iframe>)
- SVG and Canvas Basics

8. HTML5 Semantic Elements

- Understanding Semantic vs. Non-Semantic HTML
- Common Semantic Tags:
 - <header>, <footer>, <main>
 - <article>, <section>, <nav>, <aside>
- Accessibility and SEO Benefits of Semantic HTML

CSS

1. Introduction to CSS

- What is CSS?
- Importance of CSS in Web Development
- CSS Versions (CSS1, CSS2, CSS3)
- Setting Up the Environment (VS Code, Browser)
- CSS Syntax and Structure

2. CSS Units and Measurements

- Absolute Units (px, cm, mm, in)
- Relative Units (% , em, rem, vw, vh)
- CSS Variables (--main-color)

3. CSS Box Model

- Understanding the Box Model
- Content, Padding, Border, Margin
- box-sizing Property (content-box vs. border-box)
- CSS Outline vs. Border

4. Applying CSS to HTML

- Inline CSS
- Internal CSS
- External CSS
- CSS Selectors and Combinators:
 - Universal Selector (*)
 - Element Selector (h1, p, etc.)
 - Class Selector (.class)
 - ID Selector (#id)
 - Grouping Selectors
 - Attribute Selectors ([type="text"])
 - Pseudo-classes (:hover, :focus, :nth-child())
- Pseudo-elements (::before, ::after)

5. CSS Colors and Backgrounds

- Background Properties:
 - background-color
 - background-image (Linear & Radial Gradients)
 - background-repeat
 - background-position
 - background-size (cover, contain)
 - background-attachment (fixed, scroll)

6. CSS Text and Fonts

- Text Styling:
 - color, font-size, font-weight
 - text-align, text-decoration
 - text-transform, letter-spacing
- Web Fonts (Google Fonts, @font-face)
- Font Families (Serif, Sans-serif, Monospace)

7. CSS Layouts and Positioning

- Normal Document Flow
- Display Property (block, inline, inline-block, none)
- Positioning:
 - Static (default)
 - Relative
 - Absolute
 - Fixed
 - Sticky
- Float and Clear
- Z-index and Layering

8. CSS Flexbox

- Introduction to Flexbox
- Flex Container Properties:
 - display: flex
 - flex-direction (row, column)
 - flex-wrap (wrap, nowrap)
 - justify-content (center, space-between)
 - align-items (stretch, center)
 - gap (row-gap, column-gap)
- Flex Item Properties:
 - flex, flex-grow, flex-shrink, flex-basis
 - align-self

9. CSS Grid

- Introduction to CSS Grid
- Grid Container Properties:
 - display: grid
 - grid-template-columns, grid-template-rows
 - gap (row-gap, column-gap)
 - grid-template-areas
- Grid Item Properties:
 - grid-column, grid-row
 - grid-area

10. Responsive Design with CSS

- Media Queries (@media rules)
- Mobile-First vs. Desktop-First Approach
- Viewport Meta Tag
- CSS Units for Responsiveness (vw, vh, %)
- Responsive Images (max-width, object-fit)
- CSS Frameworks (Bootstrap, Tailwind)

11. CSS Animations and Transitions

- CSS Transitions:
 - transition-property
 - transition-duration
 - transition-timing-function
- CSS Animations:
 - @keyframes
 - animation-name, animation-duration
 - animation-iteration-count, animation-delay
- Transformations:
 - rotate(), scale(), translate(), skew()

JavaScript

1. Introduction to JavaScript

- What is JavaScript?
- History and Evolution (ES5, ES6, and beyond)
- JavaScript in the Browser vs. Server (Node.js Overview)
- Setting Up the Environment (VS Code, Browser Console)
- Writing Your First JavaScript Program (console.log())

2. JavaScript Basics

- Variables and Constants (var, let, const)
- Data Types (String, Number, Boolean, Undefined, Null, Symbol, BigInt)
- Operators (Arithmetic, Assignment, Comparison, Logical)
- Control Flow:
 - if, else if, else
 - switch Statements
- Ternary Operator (? :)

3. Functions and Scope

- Defining Functions (function Declaration, Expression)
- Arrow Functions (`()=>{}`)
- Function Parameters and Return Values
- IIFE (Immediately Invoked Function Expressions)
- Scope (Global, Local, Block)
- Closures and Lexical Scope

4. JavaScript Objects and Arrays

- Object Basics (Properties and Methods)
- Object Manipulation (`Object.keys()`, `Object.values()`, `Object.entries()`)
- Arrays (Creation, Accessing Elements, Looping)
- Array Methods:
 - `push()`, `pop()`, `shift()`, `unshift()`
 - `map()`, `filter()`, `reduce()`
 - `forEach()`, `find()`, `includes()`

5. Events and Event Handling

- Understanding Events (Mouse, Keyboard, Form)
- Event Listeners (`addEventListener()`, `removeEventListener()`)
- Event Object (`event.target`, `event.preventDefault()`)
- Event Delegation and Bubbling vs. Capturing
- Common Events: `click`, `submit`, `keydown`, `change`, `DOMContentLoaded`

6. Document Object Model (DOM)

- What is the DOM? (HTML to DOM Tree)
- DOM Traversal:
 - `document.getElementById()`
 - `document.querySelector()`, `querySelectorAll()`
 - `parentNode`, `children`, `nextElementSibling`, `previousElementSibling`
- DOM Manipulation:
 - Changing Content (`innerText`, `innerHTML`, `textContent`)
 - Changing Attributes (`setAttribute()`, `getAttribute()`, `removeAttribute()`)
 - Adding/Removing Elements (`createElement()`, `append()`, `remove()`)
 - Modifying Classes (`classList.add()`, `classList.remove()`, `toggle()`)

7. Forms and Validations

- Form Handling (submit Event)
- Accessing Form Data (`.value`)
- Basic Form Validation (Required Fields, Patterns)
- Real-time Validation (Event Listeners)
- Custom Validations using JavaScript

JQuery

1. Overview of jQuery and its advantages

2. Basic jQuery syntax and selectors

3. jQuery Events and Effects (show, hide, toggle, fade, slide etc)

4. Using jQuery plugins

UI Frameworks

1. Bootstrap

- Colors, Spacing, and Typography
- Bootstrap Grid System
- Bootstrap Components
- Creating a custom Bootstrap theme

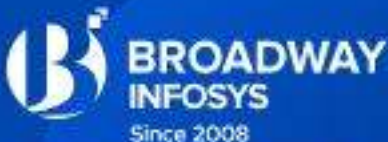
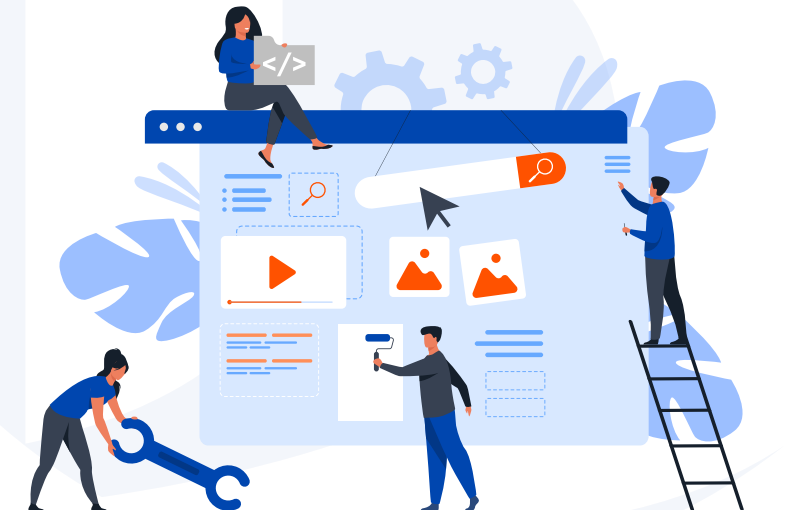
2. Tailwind CSS

- Colors, Spacing, and Typography
- Backgrounds, Borders, and Shadows
- Flexbox & Grid system
- Responsive design principles
- Transitions & Animations

GIT/ GITHUB/Hosting/Domain

1. Projects (As per the Institute Rules, all four of the following projects will be done by the Student themselves!)

- E-commerce Website
- Corporate Website
- News Portal Website
- Travel & Tours Website



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